

## MAT065 FINAL EXAM REVIEW – FORM 2R

1. Solve for M:  $F = \frac{MV + R}{K}$

2. Solve:  $x^2 + 10x = 24$

3. Solve:  $5(x - 3) - (x - 7) = 2(x + 1)$

4. Solve:  $20x^2 - 12x = 0$

5. Factor Completely:  $18y^2 - 50$

6. Multiply:  $(2x - 3)(6x^2 - 5x - 4)$

7. Evaluate:  $\frac{a^2 - 4b}{2c}$  if  $a = -2$ ,  $b = -3$ ,  $c = -1$

8. Simplify:  $\frac{6a^3b^7 - 15a^2b^3c + 9ab^5}{3ab^2}$

9. Check if  $x = -2$  is a solution to the equation:

$$x^3 - 3x - 1 = 3x^2 + 5x - 5$$

10. Combine:  $\frac{3}{8} - \frac{7}{10x}$

11. Write in simplest radical form:  $2\sqrt{9} + 3\sqrt{50} - \sqrt{32}$

12. Solve:  $36m^2 = 25$

13. Evaluate:  $\frac{-5 - 3^2}{-2} - 3(2 - 6)$

14. Simplify:  $8x^3 - 3x(2x^2 - 3y) - 3y(4x)$

15. Factor Completely:  $24x^5y^3 - 16x^7y^2 + 8x^2y^2$

16. Factor Completely:  $4y^2 - 5y - 6$

17. State the slope, y-intercept and then sketch the graph for:  $3x - 2y = 4$

18. Simplify completely:  $\frac{5x^2 + 15x}{x^2 - 9}$

19. Simplify completely:  $\left(\frac{22x^2y^8}{27x^6}\right)\left(\frac{-18xy}{55x^4y^3}\right)$

20. Solve Algebraically:  $\begin{cases} 3x + 2y = 7 \\ 5x + 6y = 1 \end{cases}$

21. Solve:  $\frac{x}{2} + \frac{3}{4} = \frac{5x}{12}$

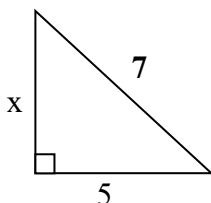
22. Solve the inequality and sketch the solution on the number line:  $-5 + 2x \geq 5x - 17$

23. Write an equation to represent the following problem, and then solve that equation:

If ten times a number is increased by four, the result is twelve less than nine times the number.

24. Write the equation of a line through the points  $(-1, -3)$  and  $(1, -7)$  in slope-intercept form ( $y = mx + b$ )

25. Solve for x in the given right triangle. Your solution must be in simplest radical form:



ANSWERS TO MA065 FINAL EXAM REVIEW - FORM 2R

1.  $M = \frac{FK - R}{V}$

2.  $x = -12, 2$

3.  $x = 5$

4.  $x = 0, \frac{3}{5}$

5.  $2(3y - 5)(3y + 5)$

6.  $12x^3 - 28x^2 + 7x + 12$

7.  $-8$

8.  $2a^2b^5 - 5abc + 3b^3$

9. Yes, since  $-3 = -3$

10.  $\frac{15x - 28}{40x}$

11.  $6 + 11\sqrt{2}$

12.  $x = \frac{5}{6}, x = -\frac{5}{6}$

13. 19

14.  $2x^3 - 3xy$

15.  $8x^2y^2(3x^3y - 2x^5 + 1)$

16.  $(4y + 3)(y - 2)$

17.  $y = \frac{3}{2}x - 2$  and Slope =  $\frac{3}{2}$ , y-int =  $(0, -2)$

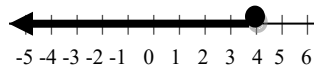
18.  $\frac{5x}{x - 3}$

19.  $-\frac{4y^6}{15x^7}$

20.  $x = 5, y = -4$

21.  $x = -9$

22.  $x \leq 4$



23.  $10x + 4 = 9x - 12$ , thus  $x = -16$

24.  $y = -2x - 5$

25.  $2\sqrt{6}$